

## Gender in declension: Insights from mixed agreement in Russian

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Despite close connections between nominal declension class and gender, they are usually represented by the distinct sets of features (Aronoff (1994), Halle (1992, 1994), Alexiadou (2004), Alexiadou & Müller (2008), Kramer (2015), Kučerová (2018)). On the basis of the restrictions on semantic gender agreement in Russian, I argue that nominal inflection targets gender features directly and the sets of inflectional exponents called declensions arise from the combination of gender and some idiosyncratic features on roots (as in Roca (1989), Harris (1991), Wiese (2004), Caha (2019, 2020)).

**Mixed agreement:** In Russian, some profession-denoting nouns are morphologically masculine, but optionally trigger feminine agreement if a referent is female; see (1). In the singular, feminine agreement is restricted to the nominative; see (2) that shows ungrammaticality with the dative. While Russian generally does not have gender agreement in the plural, *oba* ‘both’ display gender in the plural. As shown in (3), feminine agreement is possible with oblique plural nouns. Semantic agreement in the nominative plural cannot be tested because ‘both’ (as some numerals) requires the singular genitive form then. While these data are already familiar (Panov (1968), Pesetsky (2013), Gerasimova (2019), i.a.), in what follows I will present two novel observations.

- (1) xoroš-yj/aja vrač      (2) xoroš-emu/\*ej vrač-u      (3) ob-o/e-im vrač-am  
 good-M/F doctor      good-M.DAT/\*F doctor-DAT      both-M/F-PL.DAT doctor-PL.DAT

**Syncretism:** Feminine agreement is restricted to forms where the exponents on the noun are syncretic to the declension class that includes feminine nouns. Russian has four declension classes. Class I includes only grammatically masculine nouns. Class II predominantly consists of feminine nouns but also includes a small group of animate masculine nouns. Class III includes only feminine nouns and class IV consists of neuter nouns. The hybrid nouns as in (1)-(3) belong to class I. As shown in Table 1, inflection of class I is syncretic to class III (that includes only feminine nouns) in the nominative singular and in the plural forms. These are the forms where the semantic feminine agreement

	SG				PL			
	I	II	III	IV	I	II	III	IV
NOM	∅	a	∅	o	i	i	i	a
ACC	a	u	∅	o	ov	∅	ov	a
GEN	a	i	i	a	ov	∅	ov	∅
LOC	e	e	i	e			ax	
DAT	u	e	i	u			am	
INSTR	om	oj	ju	om			ami	

Table 1: Declension of animate nouns

is allowed. One might also note that the exponents of the locative case are segmentally identical in I and II (that includes feminine nouns). They however differ in their accentual properties: The class II exponent is underlyingly stressed, while the class I exponent is not (Melvold (1989)). This correlation between the number case restrictions and the morphological makeup of the noun shows that the restrictions on agreement are morphological and stem from the inflection on the noun.

**Ellipsis:** The case number restrictions don’t hold under ellipsis. The elided noun is dative singular in (4), but feminine agreement is allowed (in contrast to (2)). Assuming that ellipsis is absence of Vocabulary Insertion (Merchant (2001)), this shows that insertion of the nominal form causes ungrammaticality.

- (4) Ja pojdu tol’ko k xoroš-ej [ \_ ].  
 I will.go only to good-F.DAT  
 {Context: Don’t recommend me the bad doctors.}  
 I will go only to a good one (f.)’

**Gender and declension:** The vast majority of approaches to mixed agreement (Pereltsvaig (2006), Asarina (2009), Steriopolo & Wiltschko (2010), Pesetsky (2013), Lyutikova (2015), Smith (2015, 2017), Landau (2016), Steriopolo (2018)) posit an additional semantic gender feature in the nominal projections. Combined with the conclusion that the number case restrictions are morphological, this

strongly suggests that Vocabulary Insertion of nominal inflection is conditioned by gender rather than just by class. Current approaches to declension (Embick (2010), Kramer (2015)) cannot derive this dependency because their exponents are specified for class features that are distinct from gender. Possible correlations between them follow from implicational redundancy rules of the type ‘Insert II in the context of [+fem]’ (Kramer (2015, 239)). If an additional gender feature does not lead to insertion of a different class, there is no change in inflection and no source for ungrammaticality. If another class is inserted, it results in different exponents throughout the paradigm.

**What is declension:** I would like to propose that the number case restrictions can be derived if declension is decomposed into gender ( $[\pm\text{fem}]$ ) and an idiosyncratic feature of a lexical item ( $[\pm\alpha]$ ) (see Halle (1992), Müller (2004) for other decompositions of class). Specifications of the classes in Russian are in Table 2. I suggest that feminine nouns are  $[\text{+fem}][\text{-masc}]$ , masculine nouns are  $[\text{-fem}][\text{+masc}]$ , and neuter nouns are  $[\text{-fem}][\text{-masc}]$ . Then, class I with masculine nouns and class IV with neuter nouns share  $[\text{-fem}]$ , and classes II and III have  $[\text{+fem}]$ . I assume that animate masculine II nouns are unspecified for gender, masculine agreement in syntax arises as a default for animate nouns, and  $[\text{+fem}]$  is inserted by a rule at PF.

I	$[\text{-fem}][\text{+}\alpha]$
II	$[\text{+fem}][\text{-}\alpha]$
III	$[\text{+fem}][\text{+}\alpha]$
IV	$[\text{-fem}][\text{-}\alpha]$

Table 2: Class

**Morphological conflicts:** Hybrid nouns have  $[\text{-fem}][\text{+}\alpha]$  features and also  $[\text{+fem}]$  if they denote a female. Following Schütze (2003), Citko (2005), Asarina (2011), Bhatt & Walkow (2013), Hein & Murphy (2019), and Coon & Keine (2020), contradictory features on one node are tolerated by syntax but problematic for Vocabulary Insertion. The conflict can be resolved only by a syncretic form underspecified for the contradicting features. Thus, semantic agreement is allowed only if a vocabulary item is underspecified for gender and compatible with  $[\text{+}\alpha]$ . This is the case in the no-

(5) a.  $\backslash\emptyset\backslash \leftrightarrow [\text{nom}][\text{+}\alpha]$ ;      minative singular and in the accusative and genitive plural: Each  
 b.  $\backslash\text{ov}\backslash \leftrightarrow [\text{acc/gen}][\text{+}\alpha]$ ; form is syncretic between I and III that are both  $[\text{+}\alpha]$  but have  
 c.  $\backslash\text{am}\backslash \leftrightarrow [\text{dat}][\text{+p}]$ ;      different gender features (see (5a-b), case features simplified).  
 d.  $\backslash\text{om}\backslash \leftrightarrow [\text{instr}][\text{-fem}]$ . This is also the case in the locative, dative, and instrumental plural forms, where the vocabulary items don’t differentiate between classes; see (5c). The remaining singular exponents are specific for I or syncretic to IV that is specified for  $[\text{-fem}]$ ; see (5d).

**Ineffability:** While the inability to provide an exponent for a node with conflicting features and resolution by a syncretic exponent or by ellipsis are attested for various phenomena cross-linguistically (see references above), Vocabulary Insertion that is based on the Subset Principle (Halle, 1997) cannot fail because of the presence of an additional feature. I would like to propose that ineffability is best derived as follows. First, Vocabulary Insertion applies and inserts a Vocabulary item that is the best match according to the Subset Principle. Second, the output of Vocabulary Insertion and the corresponding node in the structure are subject to the Consistency condition. It is violated if the features of the inserted Vocabulary item contradict features in the syntactic node. The violation of the Consistency condition makes the structure ineffable.

$$(6) \begin{array}{l} \left[ \begin{array}{l} \text{instr} \\ \text{-fem} \\ \text{+}\alpha \\ \text{+fem} \end{array} \right] \begin{array}{l} \textcircled{1} \text{ Insertion:} \\ \backslash\text{ju}\backslash \leftrightarrow [\text{instr}][\text{+fem}][\text{+}\alpha] \\ \textcircled{2} \text{ *Consistency} \end{array} \end{array}$$

**Augmentative:** Further evidence for class decomposition in Table 2 comes from the augmentative suffix *išč*. If it is attached to a feminine noun (independently of its class), the derived noun inflects as class II; if the original noun is masculine or neuter (i.e.,  $[\text{-fem}]$ ), the derived noun belongs to class IV (Švedova (1980, 213), Timberlake (2004, 146)). Assuming that the suffix is specified for  $[\text{-}\alpha]$ , the class of the derived noun follows directly from this abstract feature combined with the gender of the original noun:  $[\text{+fem}]$  and  $[\text{-}\alpha] \rightarrow$  class II;  $[\text{-fem}]$  and  $[\text{-}\alpha] \rightarrow$  class IV. The account of this pattern requires additional stipulations if class is treated as a primitive feature distinct from gender.